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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,482	10/23/2002	Ping-Sheng Chen	MTKP0028USA	5670

27765 7590 09/11/2006

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EXAMINER	
RAMPURIA, SATISH	

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/065,482	CHEN ET AL.	
	Examiner	Art Unit	
	Satish S. Rampuria	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11 and 14-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11 and 14-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. This action is in response to the RCE filed on June 2, 2006.

2. Claims cancelled by the Applicant: 1-10 and 12-13.

3. Claims amended by the Applicant: 11.

4. Claims pending in the application: 11, 14-20.

5. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 2, 2006 has been entered.

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but they are moot in view of new ground(s) of rejection.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 11, 19 and 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2 and 3 of U. S. Patent No. 6,170,043 to Hu (hereinafter called '043) in view of US Publication No. 2002/0062480 to Kirisawa (hereinafter, Kirisawa). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following observation.

Instant Claim	*'043 Claim*
11. **An optical disk system control chip, used in an optical disk system to update firmware information, the control chip comprising:** **a microprocessor, coupled to a data bus, wherein the microprocessor is also coupled to a firmware memory through the data bus, in which the firmware memory is used to store the firmware information;** **a decoder, coupled to the microprocessor through the data bus, wherein the decoder is also coupled to a first buffer memory,** and the decoder receives updated firmware information from an update source;	1. **An optic-disk system control chip, used in an optic-disk system to update its firmware information, the control chip comprising:** **a microprocessor, coupled to a data bus, wherein the microprocessor is also coupled to an external memory through the data bus, in which the external memory is used to store the firmware information;** **a decoder, coupled to the microprocessor through the data bus, wherein the decoder is also coupled to an external buffer memory,** and an external main board inter face, which serves as an interface to communicate with an

	external computer;
a controller, coupled to the decoder, and coupled to the microprocessor through the data bus, wherein the controller is used to receive a control signal and general data; and	**a controller, coupled to the decoder, and coupled to the microprocessor through the data bus, wherein the controller is used to receive a control signal and general data; and**
a second buffer memory, coupled to the microprocessor through the data bus, wherein when the optical disk system is operated in an update mode, the microprocessor accesses the firmware memory as a data access memory and accesses the second buffer memory as an execution program memory, and	**an extra memory, coupled to the microprocessor through the data bus, wherein when the optic-disk system is operated at an update mode,** the microprocessor yields at least an output enable signal, a chip selection signal, and a writing-in signal so as to temporarily treat the external memory to as a data access memory and treat the extra memory as an execution program memory, and
after the firmware is completely updated, the second buffer memory is accessed as data access memory and the firmware memory is accessed as execution program memory, and a value of a program counter of the	**after the firmware is completely updated, the extra memory is treated back as its original data access memory and the external memory is treated back as its original execution program memory.**

microprocessor is changed such that the microprocessor executes program code stored in the firmware memory at a predetermined location of the program code instead of executing a next instruction in the program code located after the current position of the program counter.	
19. The control chip of claim 11, **wherein the firmware memory is a flash memory.**	2. The control chip of claim 1, **wherein the external memory comprises a flash memory.**
20. The control chip of claim 11, **wherein the firmware memory is an electrically erasable programmable read only memory (EEPROM).**	3. The control chip of claim 1, **wherein the external memory comprises an electrical erasable programmable read only memory (EEPROM).**

Although, '043 discloses updating the firmware on a device. '043 is silent on a control circuit used for generating a *reset signal*, wherein the control circuit issues the reset signal to the microprocessor for resetting the program counter of the microprocessor to a predetermined value, and the microprocessor executes the program code stored in the firmware memory at a location of the program code corresponding to the predetermined value of the program counter instead of executing a next instruction in the program code located after the current position of the program counter. However, the feature of changing or resetting the program counter to execute the program stored at the predetermined location deemed to be inherent to '043 system.

'043 disclose resetting the microprocessor by turning ON/OFF to initialize the microprocessor (col. 3-4, lines 58-67 and 1-8 and FIG. 3A and FIG. 5 and related discussion). '043 system would in inoperative if microprocessor does not reset to have the new changes in effect.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 11 and 14-20 rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,170,043 to Hu (hereinafter called '043) in view of US Publication No. 2002/0062480 to Kirisawa (hereinafter, Kirisawa).

Per claim 1-10: Cancelled.

Per claim 11:

'043 discloses:

- An optical disk system control chip, used in an optical disk system to update firmware information (col. 1, lines 61-62 "a CD-ROM control chip is provided for a use of firmware information update"), the control chip comprising:
- a microprocessor, coupled to a data bus, wherein the microprocessor is also coupled to a firmware memory through the data bus, in which the firmware memory is used to store the firmware information (col. 1, lines 62-65 "CD-ROM control chip at least includes a microprocessor, a decoder, a controller, and an extra memory. The microprocessor is

coupled to a data bus, and further coupled to an external ROM, which stores all firmware information. The decoder is coupled to the microprocessor through the data bus, and is also coupled to an external buffer memory and an external main board interface");

- a decoder, coupled to the microprocessor through the data bus (col. 1, lines 65-66 "The decoder is coupled to the microprocessor through the data bus"), wherein the decoder is also coupled to a first buffer memory (col. 1, lines 66-67 "and is also coupled to an external buffer memory and an external main board interface"), and the decoder receives updated firmware information from an update source (col. 1, lines 61-62 "a CD-ROM control chip is provided for a use of firmware information update");
- a controller, coupled to the decoder, and coupled to the microprocessor through the data bus, wherein the controller is used to receive a control signal and general data (col. 2, lines 3-7 "The controller is coupled to the decoder, and is coupled to the microprocessor the data bus. The controller is used to receive information and control signals from an external CD"); and a second buffer memory, coupled to the microprocessor through the data bus (col. 2, lines 6-7 "The extra memory is coupled to the microprocessor through the data bus "),
- wherein when the optical disk system is operated in an update mode, the microprocessor accesses the firmware memory as a data access memory and accesses the second buffer memory as an execution program memory (col. 5, lines 62-67 "original execution program memory space is treated as a data access memory space to store the program code data that are to be updated, and the second buffer memory is treated as an execution program memory space to store the update program routine"), and after the firmware is

completely updated, the second buffer memory is accessed as data access memory and the firmware memory is accessed as execution program memory (col. 6, lines 1-6 "update program routine stored in the second buffer memory is executed to program the data access memory space with the new program code data, in which the data access memory space is the flash memory of FIG. 2 that is the original execution program memory space").

Although, '043 discloses updating the firmware on a device. '043 is silent on a control circuit used for generating a *reset signal*, wherein the control circuit issues the reset signal to the microprocessor for resetting the program counter of the microprocessor to a predetermined value, and the microprocessor executes the program code stored in the firmware memory at a location of the program code corresponding to the predetermined value of the program counter instead of executing a next instruction in the program code located after the current position of the program counter. However, the feature of changing or resetting the program counter to execute the program stored at the predetermined location deemed to be inherent to '043 system. '043 disclose resetting the microprocessor by turning ON/OFF to initialize the microprocessor (col. 3-4, lines 58-67 and 1-8 and FIG. 3A and FIG. 5 and related discussion). '043 system would in inoperative if microprocessor does not reset to have the new changes in effect.

'043 does not explicitly disclose the control circuit being external and separate from the microprocessor.

However, Kirisawa discloses in an analogous computer system the control circuit being external and separate from the microprocessor (FIG. 2; paragraph [0010, 0012-0013]).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of control circuit being external and separate from the microprocessor as taught by Kirisawa into the method of updating an optic disc as taught by Hu. The modification would be obvious because of one of ordinary skill in the art would be motivated have the control circuit external to the microcontroller to provide in updating the program, in the case of the stop of the operation of the first processor , the process for updating the firmware can be executed under the control of the second processor as suggested by Kirisawa (paragraph [0057]).

Per claim 12: Cancelled.

Per claim 13: Cancelled.

Per claim 14:

The rejection of claim 11 is incorporated, and further, '043 discloses:

- wherein the update source, which the updated firmware information is fetched from, is an optical disk read by the optical disk system (FIG. 7 and related discussion).

Per claim 15:

The rejection of claim 14 is incorporated, and further, '043 discloses:

- wherein the optical disk is a compact disk, and the optical disk system is a compact disk drive (FIG. 7 and related discussion).

Per claim 16:

The rejection of claim 11 is incorporated, and further, '043 discloses:

- wherein the update source, which the updated firmware information is fetched from, is a peripheral device connected to the optical disk system through an interface connection(FIG. 2 and 7 and related discussion).

Per claim 17:

The rejection of claim 16 is incorporated, and further, '043 discloses:

- wherein the peripheral device is a computer, onto which the program code and the update program routine have been downloaded from a software source (FIG. 2 and 7 and related discussion).

Per claim 18:

The rejection of claim 16 is incorporated, and further, '043 discloses:

- wherein the interface connection is an IDE interface, an EIDE interface, a SCSI interface, an RS232 interface, a USB interface, or an IEEE 1394 interface (col. 6, lines 34-36 "The update program code can be pre-downloaded into the computer through the main board interface 214 to fetch the desired update program code from a remote data source. The main board interface 214 includes, for example, an IDE interface, enhanced-IDE

interface, or a SCSI interface, all of which are common products in the computer market").

Per claim 19:

The rejection of claim 11 is incorporated, and further, '043 discloses:

- wherein the firmware memory is a flash memory (col. 3, lines 23-25 "update firmware information, which is stored in a memory 210, such as a flash memory 210 or an electrical erasable programmable ROM (EEPROM)").

Per claim 20:

The rejection of claim 11 is incorporated, and further, '043 discloses:

- wherein the firmware memory is an electrically erasable programmable read only memory (EEPROM) (col. 3, lines 23-25 "update firmware information, which is stored in a memory 210, such as a flash memory 210 or an electrical erasable programmable ROM (EEPROM)").

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is **(571) 272-3732**. The examiner can normally be reached on **8:30 am to 5:00 pm** Monday to Friday except every

other Friday and federal holidays. Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: 571-272-2100**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wei Y. Zhen** can be reached on **(571) 272-3708**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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